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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,172	03/31/2004	Oswald Kuwert	BOE01 052	4481

7590
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04/26/2007

EXAMINER

LE, DANG D

ART UNIT

PAPER NUMBER

2834

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/813,172

Applicant(s)

KUWERT ET AL.

Examiner

Dang D. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-6, 8-10, and 12-14 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments filed 2/12/07 have been fully considered but they are not persuasive.

Regarding the Ohta et al. reference, the outer portion 59 of Ohta et al. is integrated with the housing 3. The term "integrated" does not mean monolithically formed with. One can say that the arm rest of a chair is integrated with the seat, although the two components are connected by means of nuts and bolts. The rejection of claims 1-3 under 35 U.S.C. 102(b) as being anticipated by Ohta et al. is still deemed proper and repeated hereinafter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohta et al. (6,157,103).

Regarding claim 1, Ohta et al. shows an electric motor for a linear drive system comprising a motor housing (3) within which a stator (7a, 7b), a rotor (46, 72) and a

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threaded shank (43) are accommodated, the stator having a stator core and plurality of phase windings each connected to one of a plurality of phase connectors, the rotor being mounted onto a rotor hub, the rotor hub being (46) supported in the motor housing by at least one roller bearing (50) and coupled to the threaded shank to transform the rotation of the rotor into a translational motion of the threaded shank, wherein the motor housing includes a single injection molded part within which the stator, together with the stator core and the phase windings, are fully embedded (Figure 9); and wherein a linear guide (59) is integrated with the injection molded part of the motor housing, the linear guide configured to accommodate and guide the threaded shank.

Regarding claim 2, Ohta et al. also shows a stopper (54) for positioning the threaded shank, the stopper being integrated into the injection molded part of the motor housing.

Regarding claim 3, Ohta et al. also shows the phase connectors (Figure 9) being embedded in the injection molded part of the motor housing.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 2, 4-6, 10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (6,049,151) in view of Ohta et al. (6,157,103).

Regarding claim 1, Suzuki et al. shows an electric motor for a linear drive system comprising a motor housing (11) within which a stator (15, 16), a rotor (6, 8) and a threaded shank (1) are accommodated, the stator having a stator core (15) and plurality of phase windings (16) each connected to one of a plurality of phase connectors, the rotor being mounted onto a rotor hub (6), the rotor hub being supported in the motor housing by at least one roller bearing (9) and coupled to the threaded shank to transform the rotation of the rotor into a translational motion of the threaded shank (up or down in Figure 2),

wherein the motor housing (14) includes an injection molded part within which the stator, together with the stator core and the phase windings, are fully embedded; and wherein a linear guide (21) is integrated with the injection molded part of the motor housing, the linear guide configured to accommodate and guide the threaded shank.

Suzuki et al. does not show the motor housing being a single injection molded part.

For the purpose of reducing cost by reducing components, Ohta et al. shows the motor housing (3) being a single injection molded part.

Since Suzuki et al. and Ohta et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the motor housing as a single injection molded part as taught by Ohta et al. for the purpose discussed above.

Regarding claim 2, Suzuki et al. also shows a stopper (flat part of hole 21) for positioning the threaded shank, the stopper being integrated into the injection molded part of the motor housing.

Regarding claim 4, Suzuki et al. also shows the threaded shank having an outer thread (7) and the rotor hub has an inner thread (2) which interacts with each other.

Regarding claim 5, Suzuki et al. also shows the rotor hub including an injection molded part (6) within which the rotor is embedded.

Regarding claim 6, Suzuki et al. also shows bearing supports for the roller bearings being integrated into the injection molded part of the motor housing (Figure 2).

Regarding claim 10, Suzuki et al. also shows the electric motor being a hybrid stepping motor.

Regarding claim 12, Suzuki et al. also shows the stopper (flat part) interacting with linear guide (hole 21).

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Regarding claim 13, Suzuki et al. also shows a motor flange (12) being molded onto the injection molded part of the motor housing.

8. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (6,049,151) in view of Palmero (3,621,312).

Regarding claim 8, Suzuki et al. shows all of the limitations of the claimed invention except for the rotor having two pole plates which are separated by a permanent magnet, the pole plates and the permanent magnet being held and positioned in the injection molded part of the rotor hub.

Palmero shows besides the rotor with circumferential positioned magnet (Figure 5), the rotor having two pole plates (Figure 1) which are separated by a permanent magnet, the pole plates and the permanent magnet being held and positioned in the injection molded part of the rotor hub for the purpose of reducing stray field loss.

Since Suzuki et al. and Palmero are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the rotor with two pole plates which are separated by a permanent magnet, the pole plates and the permanent magnet being held and positioned in the injection molded part of the rotor hub as taught by Palmero for the purpose discussed above.

Regarding claim 14, Suzuki et al. also shows the electric motor being a hybrid stepping motor.

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9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Palmero and further in view of Akagi (4,742,989).

Regarding claim 9, the motor of Suzuki et al. modified by Palmero includes all of the limitations of the claimed invention except for a plurality of bearing supports for the roller bearings being integrated into the injection molded part of the rotor hub. Suzuki et al. shows only one roller bearing.

Akagi shows many bearings for the purpose of reducing friction.

Since Suzuki et al., Palmero, and Akagi are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use many bearings as taught by Akagi for the purpose discussed above.

Information on How to Contact USPTO

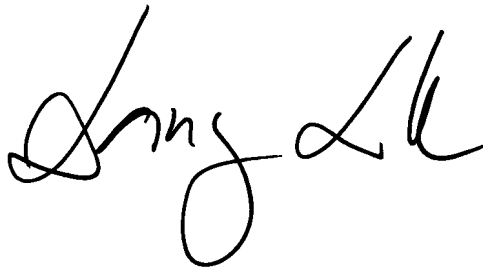
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

4/22/07

A handwritten signature in black ink, appearing to read 'Dangle', with a stylized, cursive script.

**DANGLE
PRIMARY EXAMINER**